

CLAIMS

1. A communication control apparatus for
controlling multipoint communication conducted using a
plurality of communication apparatuses connected via a
5 communication circuit, comprising
a request processing means for inquiring to a
designated communication apparatus whether it intends to
attend multipoint communication when receiving
information designating that communication apparatus and
10 a request seeking the attendance of that designated
communication apparatus in the multipoint communication
and
a communication control means for controlling
the multipoint communication among the plurality of
15 communication apparatuses including the designated
communication apparatus when receiving an answer from the
designated communication apparatus to the effect of
attending the multipoint communication.
2. A communication control apparatus as set forth
20 in claim 1, wherein the request processing means notifies
the communication apparatus issuing the request that it
has received an answer from the designated communication
apparatus to the effect of refusing to attend the
multipoint communication when receiving the same.
- 25 3. A communication control apparatus as set forth

in claim 2, wherein the request processing means notifies the communication apparatus issuing an answer to the effect of refusing to attend the multipoint communication of at least one of a state of said multipoint communication and content of the conversation at a predetermined timing.

4. A communication control apparatus as set forth in claim 3, wherein the request processing means notifies the apparatus when at least one of the attendants in the multipoint communication and content of communication changes.

5. A communication control apparatus as set forth in claim 1, wherein the request processing means sends information about at least one of the attendants in the multipoint communication, the content of the conversation, a charging method, and time to the designated communication apparatus when making the inquiry.

6. A communication control apparatus as set forth in claim 1, wherein the request processing means sends information necessary for the designated communication apparatus to attend the multipoint communication to the designated communication apparatus.

7. A communication control apparatus as set forth in claim 6, wherein the information necessary for

attendance in the multipoint communication is information identifying the multipoint communication and a password.

8. A communication control apparatus as set forth in claim 1, wherein the communication control means
5 controls data transmitted from the plurality of communication apparatuses engaged in the multipoint communication to be received by other communication apparatuses other than the communication apparatuses transmitting the data.

10 9. A communication control apparatus as set forth in claim 1, wherein

the request processing means inquires to the communication apparatus designated by a request whether it intends to attend the multipoint communication when
15 receiving a request seeking opening of multipoint communication, and

the communication control means starts control of the multipoint communication by the plurality of communication apparatuses including the designated
20 communication apparatus when receiving an answer from that communication apparatus to the effect that it will attend the multipoint communication.

10. A communication control apparatus as set forth in claim 1, wherein
25 the request processing means instructs the

communication control means to break the connection of the multipoint communication when receiving a request seeking the same from a communication apparatus attending the multipoint communication, and

5 the communication control means controls the multipoint communication by the plurality of communication apparatus other than the communication apparatus requesting the disconnection from among the plurality of communication apparatuses attending the
10 multipoint communication in response to the command from the request processing means.

11. A communication control apparatus as set forth in claim 10, wherein

 said request processing means notifies the
15 other communication apparatuses attending said multipoint communication that said communication apparatus has output a request for disconnection from said multipoint communication.

12. A communication control apparatus as set forth
20 in claim 1, further comprising

 a charge processing means for carrying out a charge processing on users of said communication apparatus for the service related to said multipoint communication.

25 13. A communication apparatus used for multipoint

communication with other communication apparatuses
connected via communication circuit, which

receives an inquiry as to if it intends to
attend the multipoint communication together with
5 information necessary to connect to the multipoint
communication from the communication control apparatus
controlling the multipoint communication and
automatically accesses the communication control
apparatus using the necessary information when receiving
10 a command to the effect of attending the multipoint
communication.

14. A communication apparatus as set forth in claim
13, which receives information identifying the multipoint
communication and a password as the information necessary
15 to connect to the multipoint communication and uses the
same to automatically access the communication control
apparatus.

15. A communication apparatus as set forth in claim
13, further comprising
20 an operating means by which said command to
attend said multipoint communication is input.

16. A communication apparatus as set forth in claim
13, comprising
a display means for display based on image
25 information sent from said communication control

apparatus or said other communication apparatuses.

17. A communication apparatus as set forth in claim 13, comprising

5 a speech output means for speech output based on speech information transmitted from said communication control apparatus or said other communication apparatuses.

18. A communication control method for controlling multipoint communication conducted using a plurality of communication apparatuses connected via communication circuit, comprising

10 inquiring to a designated communication apparatus whether it intends to attend the multipoint communication when there is information designating a communication apparatus and a request seeking the designated communication apparatus to attend the multipoint communication and

controlling the multipoint communication among the plurality of communication apparatuses including the designated communication apparatus when the designated apparatus gives an answer to the effect of attending the multipoint communication.

19. A communication control method as set forth in claim 18, further comprising notifying the communication apparatus issuing the request that the designated

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communication apparatus has given an answer to the effect of refusing to attend the multipoint communication when that is the case.

20. A communication control method as set forth in
5 claim 18, further comprising notifying said communication apparatus answering that it will not attend said multipoint communication of at least one of a state of said multipoint communication and content of conversation at a predetermined timing.

10 21. A communication control method as set forth in claim 20, further comprising providing said notification when at least one of the attendants of said multipoint communication and said content of conversation changes.

22. A communication control method as set forth in
15 claim 18, further comprising sending information about at least one of the attendants, content of conversation, a charging method, and time of said multipoint communication to said designated communication apparatus when making said inquiry.

20 23. A communication control method as set forth in claim 18, further comprising sending information necessary for said designated communication apparatus to attend said multipoint communication to said designated communication apparatus.

25 24. A communication control method as set forth in

claim 18, wherein

said communication control means controls data transmitted from the plurality of communication apparatuses engaging in said multipoint communication to be received by other communication apparatuses other than the communication apparatuses transmitting said data.

25. A communication control method as set forth in claim 18, further comprising

inquiring at a communication apparatus designated by a request for opening the multipoint communication whether it intends to attend said multipoint communication when receiving such a request and

starting control of the multipoint communication by the plurality of communication apparatuses including said designated communication apparatus when receiving an answer from said communication apparatus that it will attend said multipoint communication.

26. A provision medium for providing a program describing a routine for controlling multipoint communication conducted using a plurality of communication apparatuses connected via communication circuit, wherein the program describes

a routine for inquiring to a designated

communication apparatus whether it intends to attend the
multipoint communication when there is information
designating that communication apparatus and a request
seeking that the designated communication apparatus
5 attend the multipoint communication and

a routine for controlling the multipoint
communication among the plurality of communication
apparatuses including the designated communication
apparatus process when the designated communication
10 apparatus gives an answer to the effect of attending the
multipoint communication.

27. A provision medium as set forth in claim 26,
wherein said program further describes

a routine for notifying said communication
15 apparatus issuing the request that a designated
communication apparatus has answered to the effect of
refusing to attend said multipoint communication when
there is such an apparatus.

28. A communication system comprising:
20 a communication circuit;
a plurality of terminal apparatuses each
comprising at least a keyword input means for inputting a
keyword and communicating with each other via the
communication circuit so as to engage in multipoint
25 communication; and

a server comprising a keyword extracting means
for receiving data including a keyword input by a
terminal apparatus and extracting the keyword from the
received data, a user database in which user information
5 is registered, a user extracting means for comparing a
keyword extracted by the keyword extracting means with
the user information registered in the user database and
extracting at least one corresponding user, and a
transmitting means for transmitting information about the
10 multipoint communication to the users extracted by the
user extracting means.

29. A communication system as set forth in claim
28, wherein

each terminal apparatus comprises a speech
15 input means,
the keyword input means includes a speech input
means, and
the keyword extracting means of the server
includes a means for extracting a keyword from speech
20 transmitted from the terminal apparatus.

30. A communication system as set forth in claim
29, wherein the keyword extracting means includes

a speech-text converting unit for converting
speech to text;
25 a speech database for saving speech data

converted in the speech-text converting unit; and

a keyword extracting unit for extracting a keyword based on speech data converted in the speech-text converting unit and data stored in the speech database.

5 31. A communication system as set forth in claim 30, wherein the speech-text converting unit stores in the speech database only the speech data relating to a predetermined portion instructed by the terminal apparatus.

10 32. A communication system as set forth in claim 30, wherein the speech-text converting unit counts the frequency of use of each word in the data converted to the text and stores the frequency of use and the word data in the speech database.

15 33. A communication system as set forth in claim 31, wherein the speech-text converting unit counts the frequency of use of each word in the data converted to the text and stores the frequency of use and the word data in the speech database.

20 34. A communication system as set forth in claim 32, wherein the speech-text converting unit counts the total number of words stored in the speech database and stores the words in the conversation and their frequency to an extent by which the total number of words does not
25 exceed a predetermined range.

35. A communication system as set forth in claim
33, wherein the speech-text converting unit counts the
total number of words stored in the speech database and
stores the words in the conversation and their frequency
5 to an extent by which the total number of words does not
exceed a predetermined range.

36. A communication system as set forth in claim
34, wherein

the server further comprises a related word
10 memory in which words related to keywords are registered
and

the keyword extracting unit extracts a keyword
based on a word related to the keyword registered in the
related word memory in addition to the speech data and
15 the data stored in the speech database when the total
number of words does not exceed the predetermined range.

37. A communication system as set forth in claim
35, wherein

the server further comprises a related word
20 memory in which words related to keywords are registered
and

the keyword extracting unit extracts a keyword
based on a word related to the keyword registered in the
related word memory in addition to the speech data and
25 the data stored in the speech database when the total

number of words does not exceed the predetermined range.

38. A communication system as set forth in claim 36, wherein the keyword extracting means extracts word data having a high frequency of use from conversation data stored in the speech database when the total number of words exceeds the predetermined range, compares the extracted word data with the word data related to the keyword registered in the related word memory to extract at least one related word, and clears the speech database and the total number of words after extracting the related word.

39. A communication system as set forth in claim 37, wherein the keyword extracting means extracts word data having a high frequency of use from conversation data stored in the speech database when the total number of words exceeds the predetermined range, compares the extracted word data with the word data related to the keyword registered in the related word memory to extract at least one related word, and clears the speech database and the total number of words after extracting the related word.

40. A communication system as set forth in claim 28, wherein

the system further comprises an external control terminal connected to the server, and

the server receives as input only a keyword from the terminals attending the multipoint communication and particularly approved terminals not attending the multipoint communication or the external control terminal
5 connected to the server.

41. A communication system as set forth in claim 28, wherein

the system further comprises an external control terminal connected to the server, and
10 terminals attending the multipoint communication and particularly approved terminals not attending the multipoint communication or the external control terminal connected to the server transmit to the server information for restricting other terminals
15 sending information about the multipoint communication.

42. A communication system as set forth in claim 28, wherein the information about the multipoint communication includes at least one of a theme of multipoint communication, a number of attendants, a
20 charging method, an access point, and a list of the attendants.

43. A communication method where a plurality of terminal apparatuses communicate with each other via communication circuit for multipoint communication,
25 comprising

a step of receiving data including a keyword transmitted from a terminal apparatus and extracting the keyword from the received data;

a step of comparing the extracted keyword with
5 previously registered user information and extracting at least one corresponding user; and

a step of transmitting information about the multipoint communication to the extracted user.

44. A communication method as set forth in claim
10 43, wherein the step for extracting the keyword extracts the keyword in speech sent from the terminal apparatus.

45. A communication method as set forth in claim 44, wherein the step for extracting the keyword is comprised of

15 a step of converting speech to text;
a step of storing the speech data converted to text; and

a step of extracting the keyword based on the converted speech data and the stored data.

20 46. A communication method as set forth in claim 45, wherein the step of storing the speech data stores only the speech data related to a predetermined portion instructed by the terminal apparatus.

47. A communication method as set forth in claim
25 45, wherein the step of storing the speech data counts

the frequency of use for each word in the data converted to text and stores the frequency of use and word data.

48. A communication method as set forth in claim 46, wherein the step of storing the speech data counts the frequency of use for each word in the data converted to text and stores the frequency of use and word data.

49. A communication method as set forth in claim 47, wherein the step of storing the speech data counts the stored total number of words and stores the words in conversation and their frequency of use to an extent by which the total number of words does not exceed a predetermined range.

50. A communication method as set forth in claim 48, wherein the step of storing the speech data counts the stored total number of words and stores the words in conversation and their frequency of use to an extent by which the total number of words does not exceed a predetermined range.

51. A communication method as set forth in claim 49, wherein the step of extracting the keyword extracts a keyword based on a word related to the keyword registered in advance in addition to the converted speech data and the stored data when the total number of words does not exceed the predetermined range.

52. A communication method as set forth in claim

50, wherein the step of extracting the keyword extracts a keyword based on a word related to the keyword registered in advance in addition to the converted speech data and the stored data when the total number of words does not exceed the predetermined range.

53. A communication method as set forth in claim 50, wherein the step of extracting the keyword is comprised of

a step of extracting word data having a high frequency of use from stored conversation data when the total number of words exceeds the predetermined range,

a step of comparing the extracted word data with the word data related to the registered keyword to extract at least one related word, and

a step of clearing the stored speech data and the total number of words after extracting the related word.

54. A communication method as set forth in claim 52, wherein the step of extracting the keyword is comprised of

a step of extracting word data having a high frequency of use from stored conversation data when the total number of words exceeds the predetermined range,

a step of comparing the extracted word data with the word data related to the registered keyword to

extract at least one related word, and

a step of clearing the stored speech data and the total number of words after extracting the related word.

5 55. A communication method as set forth in claim 43, further comprising inputting a keyword from a terminal attending the multipoint communication and a particularly approved terminal not attending the multipoint communication or an external control terminal
10 connected to a server.

 56. A communication method as set forth in claim 43, further comprising restricting the other terminals sending information about the multipoint communication by a terminal attending the multipoint communication and a
15 particularly approved terminal not attending the multipoint communication or an external control terminal connected to a server.

 57. A communication method as set forth in claim 43, wherein said information about the multipoint
20 communication includes at least one of a theme of the multipoint communication, the number of the attendants, a charging method, an access point, and a list of the attendants.

 58. A provision medium providing a program for
25 making a computer execute

a step of receiving data including a keyword transmitted from a terminal apparatus engaged in multipoint communication by communicating through a communication circuit and extracting the keyword from the
5 received data;

a step of comparing the extracted keyword with previously registered user information and extracting at least one corresponding user; and

a step of transmitting information about the
10 multipoint communication to the extracted user.

59. A provision medium as set forth in claim 58, which provides a program wherein the step for extracting the keyword extracts the keyword in speech sent from the terminal apparatus.

15 60. A provision medium as set forth in claim 59, which provides a program where the step for extracting the keyword includes

a step of converting speech to text;
a step of storing the speech data converted to
20 text; and

a step of extracting the keyword based on the converted speech data and the stored data.

61. A provision medium as set forth in claim 60, which provides a program where the step of storing the
25 speech data stores only the speech data related to a

predetermined portion instructed by the terminal apparatus.

62. A provision medium as set forth in claim 60,
which provides a program where the step of storing the
5 speech data counts the frequency of use for each word in
the data converted to text and stores the frequency of
use and word data.

63. A provision medium as set forth in claim 61,
which provides a program where the step of storing the
10 speech data counts the frequency of use for each word in
the data converted to text and stores the frequency of
use and word data.

64. A provision medium as set forth in claim 62,
which provides a program where the step of storing the
15 speech data counts the stored total number of words and
stores the words in conversation and their frequency of
use to an extent by which the total number of words does
not exceed a predetermined range.

65. A provision medium as set forth in claim 63,
20 which provides a program where the step of storing the
speech data counts the stored total number of words and
stores the words in conversation and their frequency of
use to an extent by which the total number of words does
not exceed a predetermined range.

25 66. A provision medium as set forth in claim 64,

which provides a program where the step of extracting the keyword extracts a keyword based on a word related to the keyword registered in advance in addition to the converted speech data and the stored data when the total
5 number of words does not exceed the predetermined range.

67. A provision medium as set forth in claim 65, which provides a program where the step of extracting the keyword extracts a keyword based on a word related to the keyword registered in advance in addition to the
10 converted speech data and the stored data when the total number of words does not exceed the predetermined range.

68. A provision medium as set forth in claim 66, which provides a program where the step of extracting the keyword is comprised of
15 a step of extracting word data having a high frequency of use from stored conversation data when the total number of words exceeds the predetermined range,
a step of comparing the extracted word data with the word data related to the registered keyword to
20 extract at least one related word, and
a step of clearing the stored speech data and the total number of words after extracting the related word.

69. A provision medium as set forth in claim 67,
25 which provides a program where the step of extracting the

a step of extracting word data having a high frequency of use from stored conversation data when the total number of words exceeds the predetermined range,

10 word.

a step of clearing the stored speech data and the total number of words after extracting the related

10 word.